

CLAIMS

Claimed is:

1. An electronic microwave circuit (1) with field effect transistors (T1 – T12) which are integrated upon at least one semiconductor chip (2), characterized by a light source (3), which radiates the field effect transistors with light and having a housing (6), which, in a microwave excluding manner, encloses the semiconductor chip (2) and the light source (3) or a light wave conductor (8) which is connected to the light source (3).
2. An electronic microwave circuit in accord with claim 1, therein characterized in that the field effect transistors (T1 – T12) are MESFET, especially GaAsMESFET.
3. An electronic microwave circuit in accord with claim 1 or 2, therein characterized in that the light source (3) radiates the field effect transistors (T1 – T12) with polychromatic light.
4. An electronic microwave circuit in accord with one of the claims 1 to 3, therein characterized in that the light source (3) consists of one or more light emitting diodes (7).
5. An electronic microwave circuit in accord with one of the claims 1 to 3, therein characterized in that the light source (3) consists of an illumination of xenon, halogen or of gas discharge means.

6. An electronic microwave circuit in accord with one of the claims 1 to 5, therein characterized in that a light wave conductor (8) diverts at least a portion of the radiation from the light source (3) onto the field effect transistors (T1 – T12).

7. An electronic microwave circuit in accord with claim 6, therein characterized, in that the light source (3) is placed outside of the housing (6).

8. An electronic microwave circuit in accord with claim 4, therein characterized, in that the at least one light emitting diode (7) is designed as a surface mounted device (SMD).

9. An electronic microwave circuit in accord with one of the claims 1 to 8, therein characterized, in that the housing (6) is impervious to light and/or is sealed against infiltration of air.

10. An electronic microwave circuit in accord with one of the claims 1 to 9, therein characterized, in that the microwave circuit (1) forms a damping circuit.

11. An electronic microwave circuit in accord with claim 10, therein characterized, in that between an input (E) and an output (A) at least two damping members (D1, D2) are connected in series, the damping whereof can be adjusted among several different values by the toggling connection of a plurality of resistances (R1 – R11) by field effect transistors (T1 – T12) to T-circuitry, T-bypassing circuitry, pi circuits, double pi circuitries, or double T circuits.

12. An electronic microwave circuit in accord with one of the claims 1 to 9, therein characterized, in that the electronic microwave circuit (1) forms one or more toggle circuits, especially one or more arrangements of single port, double throw circuits.

13. An electronic microwave circuit in accord with one of the claims 1 to 12, therein characterized, in that the housing (6) comprises a lower housing part 6a and an upper housing part 6b.

14. An electronic microwave circuit in accord with Claim 13, therein characterized, in that the semiconductor chip (2) is mounted on a substrate 5a installed in the lower housing part 5a.

15. An electronic microwave circuit in accord with claim 13 or 14, therein characterized, in that the light source (3) is mounted on a circuit board (5b) in the upper housing part (6b).

16. An electronic microwave circuit in accord with one of the claims 1 to 12, therein characterized, in that the semiconductor chip (2) is mounted upon one of the substrates (5a) and above the semiconductor chip (2) is installed a circuit board (5c) and the light source (3) by at least one supporting element (15) based on the substrate (5a).

17. An electronic microwave circuit in accord with claim 16, therein characterized, in that the at least one support element (15) is an electronic component, especially a series resistance.